UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,814	10/24/2000	Stephen P. Turner	H0001468	4269

7590 06/27/2003

David G Latwesen Ph D
Wells St John
601 West First Avenue Suite 1300
Spokane, WA 99201

EXAMINER
MCDONALD, RODNEY GLENN

ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/695,814	Applicant(s) TURNER ET AL.	
	Examiner Rodney G. McDonald	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *09 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *85-108 and 118* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *85-108 and 118* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *10* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 104-108 and 118 are rejected under 35 U.S.C. 102(b) as being anticipated by Suwa Seikosha (Japan 56-71955).

Suwa Seikosha teach a target for forming a p-type diffused region. The target contains Ti with 2 weight % boron. (See Abstract) "[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if one of them is in the prior art." Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. ir. 1985) (citing In re Petering, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962))

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 85-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshi et al. (Japan 09-025562).

Takeshi et al. teach sputtering an ***alloy target*** in which greater than or equal to two kinds of elements among ***Ti,*** Si, Al, Ta, ***Mg,*** and ***Zr*** are mixed as a target. (See abstract)

The differences between the present claims and Takeshi et al. is that the Zr being the majority element is not discussed with the concentration being at least 79%, at least 90%, at least 94%, at least 97% and less than 98% is not discussed and the total non-metal zirconium content is not discussed.

In Figures 9 and 10 the composition of the alloy can be shown to be a majority of Zr present with for example Ti present in the range of 0.001 to 50%.. (See Figures 9 and 10) Takeshi et al. recognize that the metals of the group can be replaced with other metals in the group. (See paragraph 0020 machine translation) Thus Ti could be replaced with Mg. (Compare to Applicant's Claim 85-96)

As discussed above Mg can be selected with Zr. As discussed above Ti can be selected with Zr. As discussed above a ternary alloy can be selected containing Ti, Mg, and Zr. (See Abstract)(Compare to Applicant's claim 97)

The motivation for controlling the alloy content in the target is that it allows the sputter deposition of layers with limited lattice defects. (See paragraph 0010-0012)

Therefore it would have been obvious to select the range of alloys and compositions within the range of Applicant's claims as taught by Takeshi et al. because it allows for a target that can be sputtered to form films with limited lattice defects.

Claims 98-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshi et al. (Japan 09-025562).

Takeshi et al. teach sputtering an ***alloy target*** in which greater than or equal to two kinds of elements among ***Ti,*** Si, Al, Ta, Mg, and ***Zr*** are mixed as a target. (See abstract)

In Figures 9 and 10 the composition of the alloy can be shown to be a majority of Zr present with for example Ti present in the range of 0-100 atomic% (See Figures 9 and 10)

The differences between Takeshi et al. and the present claims is that the purity level of the target material is not discussed.

As to the purity of the target material since the atomic concentration in Figures 9 and 10 adds to 100 atomic % Zr and Ti alloy, the alloy exists as 100% pure. (See Figures 9 and 10)

The motivation for controlling the alloy content in the target is that it allows the sputter deposition of layers with limited lattice defects. (See paragraph 0010-0012)

Therefore it would have been obvious to select the range of alloys and compositions within the range of Applicant's claims as taught by Takeshi et al. because it allows the sputter deposition of layers with limited lattice defects.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 85-88, 90-101 and 103 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 64 and 66-69 of copending Application No.09/882,037. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 64 and 66-69 teach a material that includes at least one first element selected from the group consisting of titanium, tantalum, zirconium, hafnium, and niobium and at least one second element selected from the group consisting of vanadium and nickel; and

wherein the material comprises the zirconium to a concentration of greater than or equal to about 5 weight percent and less than or equal to about 95 weight percent.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments with respect to claims 85-108 and 118 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 703-308-3807. The examiner can normally be reached on M- Th with Every other Friday off..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 703-308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9310 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Rodney G. McDonald
Primary Examiner
Art Unit 1753

RM
June 24, 2003